What You Need To Know About Testing Sputum Samples:

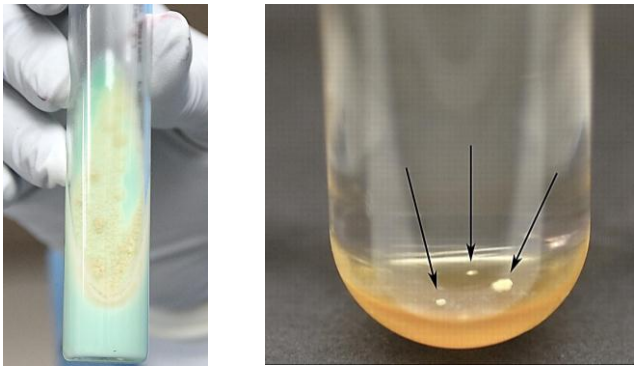
Growth Detection on Culture Media Edition

I. What is growth detection on a culture media?

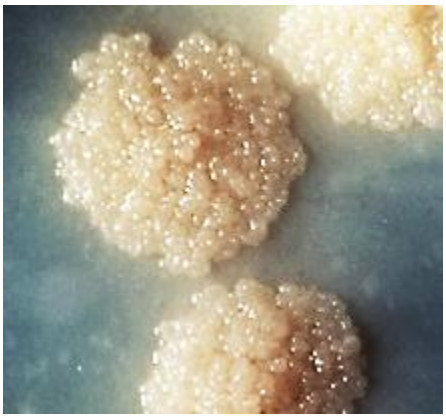
- It is growth observed on the Lowenstein-Jensen (LJ) slant by the clinical scientist or when the MGIT 960 machine flags a tube as positive for growth.
- Growth is confirmed by an Acid Fast Bacilli Smear - Ziehl-Neelsen Method (AFB Smear – ZN).

II. Why do we run an AFB Smear - ZN?

- This is a step towards identifying what mycobacteria are present in the specimen.
- We run this test to see if the bacteria grown are acid-fast.
- MTB is a common acid-fast bacillus.

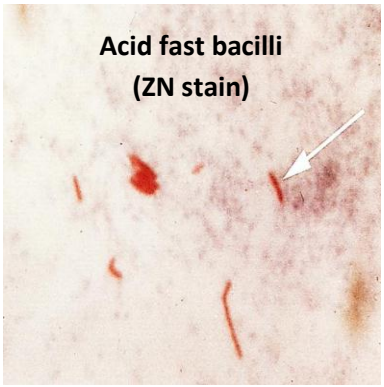


Acid fast bacilli found on solid and liquid media



Magnified view of AFB colonies

III. How does the laboratory run this test?



1. The laboratory scientist pulls either a LJ slant or MGIT 960 tube showing growth.
2. The laboratory scientist will smear what grew on either media on a microscope slide.
3. The slide is first stained with Ziehl-Neelsen carbol fuchsin dye. Then, it is flooded with acid-alcohol before a counterstain is applied.
4. The reddish purple rods seen by the lab scientist under the microscope will be counted. These rods are the bacilli that hold on to their color after the acid wash, which is why they are called acid-fast bacilli.
5. If AFB are detected, the growth found on the LJ slant or MGIT 960 tube is injected onto another solid media to grow more of the organism. The additional growth will be used for culture identification.

IV. Results: What to Expect

- Results are reported as:
  - Acid Fast Bacilli Found – Specimen will be pulled for culture identification.
  - No Acid Fast Bacilli Found – Specimen will be held for 42 days to ensure no growth.
- Average growth time on LJ slant: 21 days
- Average growth time in MGIT 960 tube: 13 days

V. Next Steps

- Looks like TB—is it actually TB? See **Culture Identification Edition** for more information.